PCT-Application WO PCT/EP 02/00047
Applicant / Owner: Nokia Corporation
Title: Method and device for downlink packet access signaling...
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Amended Claims

1. Method for High-Speed Downlink Packet Access ~~(HSDPA)~~ signaling for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system, comprising the following steps:
a base station ~~(node B)~~ sending indication information to a mobile terminal device (UE);
the mobile terminal device (UE) identified by the said indication information receiving signaling information;
said mobile terminal device, based on the said signaling information, decoding packet data information;
wherein a High-Speed Indicator designates a specific mobile terminal device accessible in a downlink channel,
characterized by the steps of :
   - including said High-Speed Indicator ~~(HI)~~ into the slot structure of a Paging Indicator Channel (PICH), said High-Speed Indicator ~~(HI)~~ comprising a plurality of identification bits, each identification bit being assigned.

2. Method according to claim 1, wherein said plurality of identification bits are four identification bits arranged in two pairs each of two bits on either side of and adjacent to a midamble area of said Paging Indicator Channel (PICH).

3. Method according to any one of the preceding claims, comprising following further steps:
   - dividing a plurality of mobile terminal devices upon a plurality of groups.

4. Method according to claim 3, comprising following further steps:
   - assigning certain periods of time to each group,

   wherein each mobile terminal device of a group receives data transmitted within said periods of time assigned to said respective group via said Paging Indicator Channel (PICH).

5. Method according to claim 3 or claim 4, comprising following further steps:
   - assigning a High-Speed Indicator ~~(HI)~~ to each mobile terminal device of a group.

6. Method according to any one of the claims 3 to 5, wherein said periods of time of a group are assigned according to the data traffic of the group.

7. Method according to any one of the preceding claims, comprising following further steps:
   - receiving information on said Paging Indicator Channel (PICH) by a mobile terminal device.

8. Method according to any one of the preceding claims, comprising the following further steps:
   - receiving signaling information on a High-Speed Shared Control Channel (HS-SCCH) by a mobile terminal device.

9. Method according to claim 7, comprising the following further steps:
   - receiving and decoding data packets on a Downlink Shared Channel (DSCH) by a mobile terminal device,

   wherein the receiving and decoding step employs said signaling information received on said High-Speed Shared Control Channel (HS-SCCH).

10. Method according any one of the preceding claims, comprising following further steps:
   - transmitting transmission related information.

11. Method according any one of the preceding claims, wherein said identification bits codes a binary address of a mobile terminal device.

12. Method according claim 1 to 11, wherein said identification bits codes a logical address of a mobile terminal device.

13. Method according any one of claims 3 to 6, wherein said dividing a plurality of mobile terminal devices upon a plurality of groups is based on the data traffic.

14. Method according any one of claims 3 to 6, wherein said dividing a plurality of mobile terminal devices upon a plurality of groups is based on an N channel Hybrid Automatic Repeat Request ~~(HARQ)~~ scheme.

15. Computer program for executing method for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system, comprising program code means for carrying out each of the steps of any one of the claims 1 to 14 when said program is run on a computer, a network device, a mobile device, or an application specific integrated circuit.

16. Computer program product comprising program code means stored on a computer readable medium for carrying out each of the steps of the method for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system of any one of claims 1 to 14 when said program product is run on a computer, a network device, a mobile device, or an application specific integrated circuit.

17. Mobile terminal device for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system, comprising means adapted to perform each of the steps of the method for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system according to any one of the claims 1 to 14.

18. Wireless communication system for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode, comprising means adapted to perform a method for High-Speed Downlink Packet Access ~~(HSDPA)~~ for Time Division Duplex ~~(TDD)~~ mode of a wireless communication system according to any one of the claims 1 to 14.